Администрирование сетевых подсистем

Лабораторная работа №1

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Цели и задачи работы

Цель лабораторной работы

Приобретение практических навыков подготовки стенда Rocky Linux, автоматизации установки и развёртывания виртуальных машин с помощью Packer и Vagrant.

Ход выполнения

Установка плагинов Vagrant

```
C:\work\dgavdadaev\vagrant>vagrant plugin install --plugin-clean-sources --plugin-source https://rubygems.org vagrant-vb
guest
Installing the 'vagrant-vbguest' plugin. This can take a few minutes...
Fetching micromachine-3.0.0.gem
Fetching vagrant-vbguest-0.32.0.gem
Installed the plugin 'vagrant-vbguest (0.32.0)'!

C:\work\dgavdadaev\vagrant>
```

Рис. 1: Установка vagrant-vbguest

Добавление box-образа

```
C:\work\dgavdadaev\vagrant>vagrant box add rockylinux10 vagrant-virtualbox-rockylinux10-x86_64.box
==> box: Box file was not detected as metadata. Adding it directly...
==> box: Adding box 'rockylinux10' (v0) for provider: (amd64)
    box: Unpacking necessary files from: file://C:/work/dgavdadaev/vagrant/vagrant-virtualbox-rockylinux10-x86_64.box
    box:
==> box: Successfully added box 'rockylinux10' (v0) for '(amd64)'!

C:\work\dgavdadaev\vagrant>
```

Рис. 2: Добавление box-файла

Настройка provisioning: hostname

```
#!/bin/bash

username=dgavdadaev

hostnamectl set-hostname "${HOSTNAME%%.*}".${username}.net
```

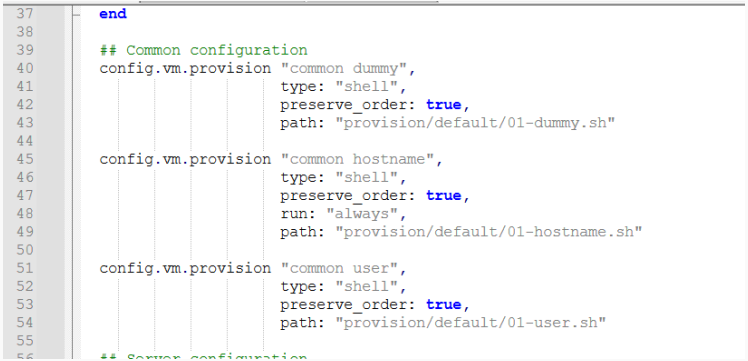
Рис. 3: Скрипт изменения hostname

Настройка provisioning: создание пользователя

```
#!/bin/bash

echo "Provisioning script $0"

username=dgavdadaev
userpassword=123456

encpassword=`openssl passwd -1 ${userpassword}`

id -u $username
if [[ $? ]]
then
    adduser -G wheel -p ${encpassword} ${username}
    homedir=`getent passwd ${username} | cut -d: -f6`
    echo "export PS1='[\u@\H \W]\\$ '" >> ${homedir}/.bashrc
fi
```

Рис. 4: Скрипт user

Подключение provisioning в Vagrantfile



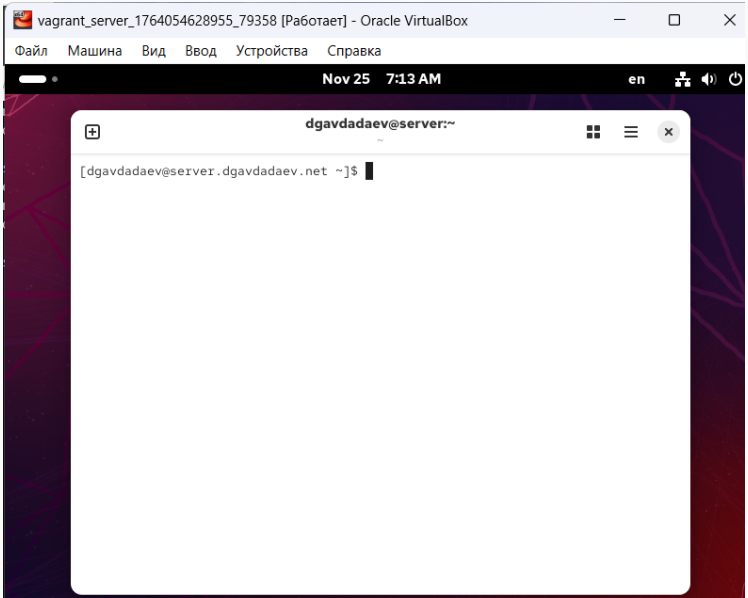
```
37  end
38
39  ## Common configuration
40  config.vm.provision "common dummy",
41                      type: "shell",
42                      preserve_order: true,
43                      path: "provision/default/01-dummy.sh"
44
45  config.vm.provision "common hostname",
46                      type: "shell",
47                      preserve_order: true,
48                      run: "always",
49                      path: "provision/default/01-hostname.sh"
50
51  config.vm.provision "common user",
52                      type: "shell",
53                      preserve_order: true,
54                      path: "provision/default/01-user.sh"
55
56  ## Server configuration
```

Рис. 5: Vagrantfile provisioning

Запуск виртуальной машины Server

```
C:\work\dgavdadaev\vagrant>vagrant up server
Bringing machine 'server' up with 'virtualbox' provider...
==> server: You assigned a static IP ending in ".1" or ":1" to this machine.
==> server: This is very often used by the router and can cause the
==> server: network to not work properly. If the network doesn't work
==> server: properly, try changing this IP.
==> server: Preparing master VM for linked clones...
    server: This is a one time operation. Once the master VM is prepared,
    server: it will be used as a base for linked clones, making the creation
    server: of new VMs take milliseconds on a modern system.
==> server: Importing base box 'rockylinux10'...
==> server: Cloning VM...
==> server: Matching MAC address for NAT networking...
==> server: You assigned a static IP ending in ".1" or ":1" to this machine.
==> server: This is very often used by the router and can cause the
==> server: network to not work properly. If the network doesn't work
==> server: properly, try changing this IP.
==> server: Setting the name of the VM: vagrant_server_1764054628955_79358
Vagrant is currently configured to create VirtualBox synced folders with
the `SharedFoldersEnableSymlinksCreate` option enabled. If the Vagrant
guest is not trusted, you may want to disable this option. For more
information on this option, please refer to the VirtualBox manual:

  https://www.virtualbox.org/manual/ch04.html#sharedfolders

This option can be disabled globally with an environment variable:
```

Проверка hostname в GUI



Подключение по SSH

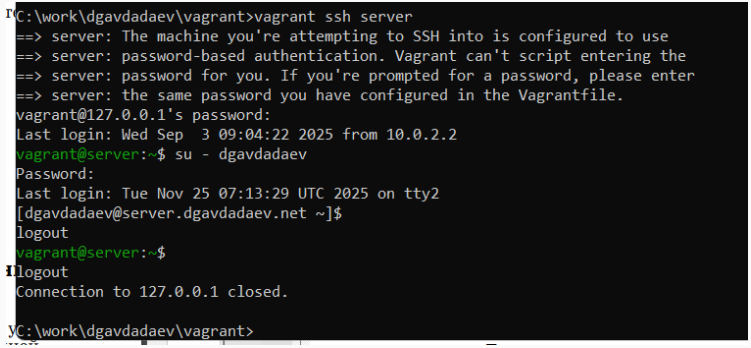


Рис. 8: SSH вход под пользователем

Выводы

Итог лабораторной работы

В ходе работы сформирован образ Rocky Linux с помощью Packer, добавлен в Vagrant и использован для развёртывания виртуальной машины.
Provisioning-скрипты автоматизировали назначение hostname и создание пользователя. Проверены корректный запуск VM, работа SSH и смена имени хоста. Лабораторный стенд подготовлен полностью и соответствует заданию.